From: Granger, Michelle
To: Hauber, Erin M CIV USARMY CENWK (US)
Subject: FW: Revised comment on Pohatcong OU3 Revised RDWP
Date: Thursday, March 1, 2018 1:38:00 PM
Attachments: PW6.pdf
POHMW13.pdf

Hi, Erin-

I received Bruce's email below in response to the revised comments I sent him after our call with Theresa Hwilka. Would you be able to take a look at the attached info and let me know what you think?

Thank you!
Michelle-

-----Original Message-----
From: Bruce S Kennington [mailto:bkennington@ramboll.com]
Sent: Wednesday, February 28, 2018 3:29 PM
To: Granger, Michelle <Granger.Michelle@epa.gov>
Cc: Roy Duckett (Roy.duckett@riotinto.com) <Roy.duckett@riotinto.com>; Angela DeDolph <adedolph@ramboll.com>; Stan Popelar <SPopelar@ramboll.com>; Scott Tarmann <starmann@ramboll.com>
Subject: RE: Revised comment on Pohatcong OU3 Revised RDWP

Michelle:

To assist in this review, please find the attached with well boring and construction logs for POHMW13 and POHPW6.

Bruce S. Kennington

Senior Managing Consultant

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bkennington@ramboll.com

-----Original Message-----
From: Bruce S Kennington
Sent: Wednesday, February 28, 2018 1:44 PM
To: 'Granger, Michelle' <Granger.Michelle@epa.gov>
Cc: Roy Duckett (Roy.duckett@riotinto.com) <Roy.duckett@riotinto.com>; Angela DeDolph <adedolph@ramboll.com>; Stan Popelar <spopelar@ramboll.com>; Scott Tarmann <starmann@ramboll.com>
Subject: RE: Revised comment on Pohatcong OU3 Revised RDWP

Dear Michelle:

I left a voice message earlier today, and I am sending the attached map illustrating the revised locations for new groundwater monitoring wells POHMW48 and POHMW49, as requested by USEPA. However, in reviewing the existing monitoring well locations within the front parking lot area of the Albéa facility, there is an existing well POHPW06 that we neglected to consider in formulating the RDWP for OU3.

POHPW06 is located near POHMW13 in the area of USEPA's 500 ug/L TCE isopleth. This is also roughly the location planned for new well POHMW48. We were able to get a sample of POHPW06 during the recent MNA monitoring activities conducted at the Site earlier this month. The screened intervals and TCE analytical results for these two existing wells are as follows:

POHMW13: 120-140 feet bgs; TCE at 25 ug/L on 2/15/18
POHPW6: 121-141 feet bgs; TCE at 19 ug/L on 2/20/18

Given the location and depth of construction of POHMW06, the installation of another well at this location would seem to be redundant and unnecessary. I look forward to discussing this with you at the earliest opportunity and so that we can finalize and transmit the RDWP for OU3 to USEPA.

Sincerely,
Bruce S. Kennington

Senior Managing Consultant

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bkennington@ramboll.com

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Chicago, IL 60606
USA
www.ramboll.com

-----Original Message-----
From: Granger, Michelle [mailto:Granger.Michelle@epa.gov]
Sent: Monday, February 26, 2018 11:18 AM
To: Bruce S Kennington <bkennington@ramboll.com>
Cc: Oconnell, Kimberly <OConnell.Kim@epa.gov>
Subject: Revised comment on Pohatcong OU3 Revised RDWP

Hi, Bruce-

Below is our 1/31 comment and revised comment regarding construction and placement of POHMW48 and POHMW49 as part of OU3 PDI. Please let me know if you have any questions. Also, when will EPA receive the Final version of the revised RDWP for OU3?

Comment from 1/31:

· PDI Work Plan Comments:

o POHMW48 and POHMW49 placement - During the site visit and in our comments, we discussed scooting MW48 to the west so it aligns with the center of the groundwater plume or "amoeba". Otherwise we are in agreement with the proposed locations, method of construction and screen interval selection (i.e., MNA MW installation protocol for OU1).

o EPA/USACE suggested installation of these wells offers an opportunity to help vertically delineate the OU1 plume; however these don't necessarily need to be linked.

Revised Comment from EPA:

· The proposed location of POHMW49 is approved. The proposed location of POHMW48 should be moved to the west and located within the centerline of the 500 ug/L isopleth.

· The well installation method and screen selection process should be consistent with processes detailed in the April 2017 Final MNA Work Plan. Specifically, Section 3 of the WP discusses use of a depth-profile sampling procedure every 20 feet until the target depth is reached. EPA/USACE suggests that installation of these wells can be done concurrently with OU1 groundwater to vertically delineate the groundwater plume in the OU1 source area - please contact Theresa Hwilka to further discuss vertical plume delineation.

· EPA requests that during installation of either POHMW48 or 49, depth-profile sampling is conducted until a concentration below 1 µg/L is reached. Based on results of this sampling, Ramboll-Environ should propose a screen interval for a "deep" well which will be approved by EPA prior to finalizing well construction.

· The other well should be constructed within the shallow groundwater and should correspond with the maximum TCE concentration, which is expected to be consistent with wells POHMW13 and POHMW12 but should be confirmed during well installation.

Thank you!
Michelle-

BORING/WELL# MW13

RIG: Jefco Truck–Mounted

PERMIT# 2400045136

METHOD: HOLLOW STEM AUGER AND MUD ROTARY

DATE: 9/1/06 – 9/8/06, 9/19/06 – 9/21/06

BORING DIA.: 8.25"

LOGGED BY: McKenna

BORING DEPTH: 140.0 FT.

DRILLING CO.: ADVANCED DRILLING, INC.

DEPTH TO WATER: 132'

DRILLER: Roger Logel

SURFACE ELEV.: 546.38'

REGISTRATION: M1166

SAMPLE TYPE: SPLIT SPOON

ENVIRON

BORING/WELL LOG

PROJECT: PECHINEY PLASTICS PACKAGING

CASE # 02–0531G

COMMENTS:

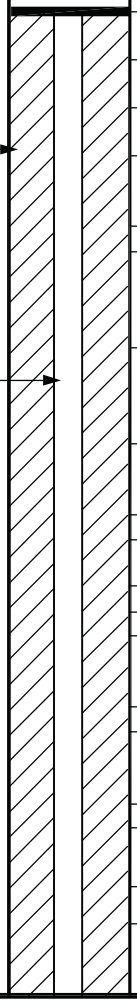
ND – NOT DETECTED

N/A – NOT AVAILABLE.

DEPTH (feet)	PID (ppm)	BLOW COUNTS	SAMPLE INTERVAL (feet)	REMARKS
0				
	ND			
	ND			
	ND	5–4–5–5	1–3	
	ND			
	ND			
	ND	3–3–4–3	3–5	
	ND			
5	ND			
	ND			
	ND	4–6–5–8	5–7	
	ND			
	ND			
	ND			
	ND	27–13–13–11	7–9	
	ND			
	ND			
	ND			
10	ND	3–5–35–51	9–11	
	ND			
	ND			
	ND	13–13–13–15	11–13	
	ND			
	ND			
	ND			
	ND	6–6–8–12	13–15	
	ND			
15	ND			
	ND			
	ND	8–11–10–16	15–17	
	ND			
	ND			
	ND			
	ND	7–40–17–11	17–19	
	ND			
	ND			
	ND			
20	ND	28–20–15–14	19–21	

Cement / Bentonite Grout 0.0' – 120.0'

Schedule 40 2"ø PVC Casing 0.0–125.0 Ft.



DESCRIPTIVE INTERVAL (feet)	DESCRIPTION
0.0–1.0	Concrete and sub–base.
1.0–2.0	Orange–brown clayey silt, some fine to coarse sand, some gravel (gneiss).
2.0–3.0	No recovery.
3.0–4.5	Orange–brown clayey silt, some fine to coarse sand, some gravel (gneiss).
4.5–5.0	No recovery.
5.0–7.0	Orange–brown fine to coarse sand, some gravel.
7.0–9.0	Orange–brown clayey silt, some fine to coarse sand, some gravel (gneiss).
9.0–10.5	Orange–brown clayey silt, some fine to coarse sand, some gravel (gneiss).
10.5–11.0	No recovery.
11.0–12.0	Orange–brown clayey silt, some fine to coarse sand, some gravel (gneiss).
12.0–12.5	Brown to gray fine to coarse sand.
12.5–13.0	No recovery.
13.0–14.5	Gray to orange–brown fine to coarse sand, some silty clay, little gravel (gneiss).
14.5–15.0	No recovery.
15.0–16.5	Orange–brown clayey silt, some fine to coarse sand, some gravel (gneiss).
16.5–17.0	No recovery.
17.0–18.2	Orange–brown clayey silt, some fine to coarse sand, some gravel (gneiss).
18.2–19.0	No recovery.
19.0–20.0	Orange–brown fine to coarse sand, some silty clay, some gravel (gneiss).

BORING/WELL# MW13

ENVIRON

BORING/WELL LOG

PROJECT: PECHINEY PLASTICS PACKAGING

CASE # 02-0531G

COMMENTS:

ND – NOT DETECTED

N/A – NOT AVAILABLE.

DEPTH (feet)	PID (ppm)	BLOW COUNTS	SAMPLE INTERVAL (feet)	REMARKS	WELL CONSTRUCTION	DESCRIPTIVE INTERVAL (feet)	DESCRIPTION
20	ND	28-20-15-14	19-21			20.0-21.0	No recovery.
	ND						
	ND						
	ND	17-25-18-17	21-23			21.0-24.3	Orange-brown fine to coarse sand, some silty clay, some gravel (gneiss).
	ND			Cement / Bentonite Grout 0.0' – 120.0'			
	ND						
	ND	6-8-14-15	23-25				
25	ND					24.3-25.0	No recovery.
	ND					25.0-25.5	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND	15-10-14-18	25-27			25.5-27.0	No recovery.
	ND						
	ND						
	ND	7-11-11-11	27-29	Schedule 40 2"ø PVC Casing 0.0-125.0 Ft.		27.0-28.0	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND					28.0-29.0	No recovery.
30	ND	25-20-28-29	29-31			29.0-31.8	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND						
	ND						
	ND	31-79-N/A-N/A	31-33			31.8-32.2	Gneiss boulder.
	ND					32.2-33.0	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND	N/A-N/A-N/A-N/A	33-34			33.0-34.0	Boulder, no recovery.
						34.0-34.5	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
35						34.5-36.0	No recovery.
	ND	15-14-15-15	34-36			36.0-37.0	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND						
	ND						
		N/A-N/A-N/A-N/A	36-38			37.0-38.0	No recovery.
	ND					38.0-39.0	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND	N/A-N/A-N/A-N/A	38-40			39.0-40.0	No recovery.
40	ND						

BORING/WELL# MW13

ENVIRON

BORING/WELL LOG

PROJECT: PECHINEY PLASTICS PACKAGING

CASE # 02-0531G

COMMENTS:

ND – NOT DETECTED

N/A – NOT AVAILABLE.

DEPTH (feet)	PID (ppm)	BLOW COUNTS	SAMPLE INTERVAL (feet)	REMARKS	WELL CONSTRUCTION	DESCRIPTIVE INTERVAL (feet)	DESCRIPTION
40	ND						
	ND					40.0–41.0	Orange–brown clayey silt, some fine to coarse sand, some gravel (schist).
	ND	15–25–30–20	40–42			41.0–42.0	No recovery.
	ND					42.0–42.8	Orange–brown clayey silt, some fine to coarse sand, little gravel (gneiss).
	ND	N/A–N/A–N/A–N/A	42–44	Cement / Bentonite Grout 0.0' – 120.0'		42.8–44.0	No recovery.
	ND					44.0–45.5	Gray gravel (gneiss), some light brown fine to coarse sand, some silty clay.
45	ND	N/A–N/A–N/A–N/A	44–45			45.5–46.0	No recovery.
	ND					46.0–48.0	No recovery. Boulder.
		15–89–N/A–N/A	45–47	Schedule 40 2"ø PVC Casing 0.0–125.0 Ft.		48.0–50.0	No recovery.
		N/A–N/A–N/A–N/A	47–50			50.0–51.0	Orange–brown clayey silt, some fine to coarse sand, some gravel (gneiss).
50	ND					51.0–52.0	No recovery.
	ND	15–18–23–15	50–52			52.0–52.5	Orange–brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND					52.5–54.0	No recovery.
	ND	16–21–15–30	52–54			54.0–55.0	Orange–brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND					55.0–56.0	No recovery.
55	ND	15–25–41–100/0"	54–56			56.0–58.0	No recovery. Boulder.
		N/A–N/A–N/A–N/A	56–58			58.0–60.0	No recovery.
		79–N/A–N/A–N/A	58–60				
60	ND						

BORING/WELL# MW13

ENVIRON

BORING/WELL LOG

PROJECT: PECHINEY PLASTICS PACKAGING

CASE # 02-0531G

COMMENTS:

ND - NOT DETECTED

N/A - NOT AVAILABLE.

DEPTH (feet)	PID (ppm)	BLOW COUNTS	SAMPLE INTERVAL (feet)	REMARKS	WELL CONSTRUCTION	DESCRIPTIVE INTERVAL (feet)	DESCRIPTION
60	ND						
	ND	18-100/5"	60-62			60.0-60.5	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
						60.5-62.0	No recovery.
		N/A-N/A-N/A-N/A	62-64	Cement / Bentonite Grout 0.0' - 120.0'		62.0-64.0	No recovery. Boulder.
	ND						
	ND	14-13-17-14	64-66				
65	ND						
	ND					64.0-68.0	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND	19-100/5"	66-68	Schedule 40 2"ø PVC Casing 0.0-125.0 Ft.			
	ND						
	ND					68.0-68.7	Light brown fine to coarse sand, some silt.
	ND	15-17-16-17	68-70			68.7-71.0	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND						
70	ND						
	ND	12-10-13-16	70-72			71.0-72.0	No recovery.
	ND						
	ND					72.0-73.0	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND	7-10-11-13	72-74			73.0-74.0	No recovery.
	ND						
	ND					74.0-75.5	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
75	ND	15-17-10-19	74-76			75.5-76.0	No recovery.
	ND						
		N/A-N/A-N/A-N/A	76-78			76.0-78.0	No recovery. Boulder.
	ND						
	ND						
	ND	7-10-15-19	78-80			78.0-81.2	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND						
80	ND						

BORING/WELL# MW13

ENVIRON

BORING/WELL LOG

PROJECT: PECHINEY PLASTICS PACKAGING

CASE # 02-0531G

COMMENTS:

ND – NOT DETECTED

N/A – NOT AVAILABLE.

DEPTH (feet)	PID (ppm)	BLOW COUNTS	SAMPLE INTERVAL (feet)	REMARKS	WELL CONSTRUCTION	DESCRIPTIVE INTERVAL (feet)	DESCRIPTION
80	ND ND ND	15-29-27-31	80-82	Cement / Bentonite Grout 0.0' – 120.0'		78.0-81.2	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
						81.2-82.0	No recovery.
	ND ND	7-17-19-23	82-84			82.0-82.7	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
						82.7-84.0	No recovery.
85	ND ND ND ND	15-19-27-16	84-86			84.0-87.8	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss).
	ND ND ND ND	10-17-23-29	86-88	Schedule 40 2"ø PVC Casing 0.0-125.0 Ft.			
	ND ND ND ND	27-24-36-18	88-90			87.8-90.3	Orange-brown clayey silt, some fine to coarse sand, some gravel (gneiss and carbonate).
90	ND ND ND ND	15-29-29-18	90-92			90.3-93.0	Interbedded gray to orange weathered silty carbonate rock and orange-brown silty clay.
	1.7 0.5 ND	15-14-31-26	92-94			93.0-94.0	No recovery.
	ND 1.8 1.6 1.4	15-21-27-31	94-96			94.0-96.5	Interbedded gray to orange-brown weathered silty carbonate rock and orange-brown silty clay.
95	2.8 2	19-39-100/5"-N/A	96-98			96.5-98.0	No recovery.
	3.5 0.4 0.3	50-63-100/4"	98-100			98.0-99.0	Gray to orange-brown weathered silty carbonate rock and orange-brown silty clay.
100						99.0-100.0	No recovery.

BORING/WELL# MW13

ENVIRON

BORING/WELL LOG

PROJECT: PECHINEY PLASTICS PACKAGING

CASE # 02-0531G

COMMENTS:

ND - NOT DETECTED

N/A - NOT AVAILABLE.

DEPTH (feet)	PID (ppm)	BLOW COUNTS	SAMPLE INTERVAL (feet)	REMARKS	WELL CONSTRUCTION	DESCRIPTIVE INTERVAL (feet)	DESCRIPTION
100				Cement / Bentonite Grout 0.0' - 120.0'			Possible void reported at 102'.
105				Schedule 40 2"ø PVC Casing 0.0-125.0 Ft.			
110		N/A-N/A-N/A-N/A	100-130			100.0-140.0	No samples collected.
115							
120							

BORING/WELL# MW13

ENVIRON

BORING/WELL LOG

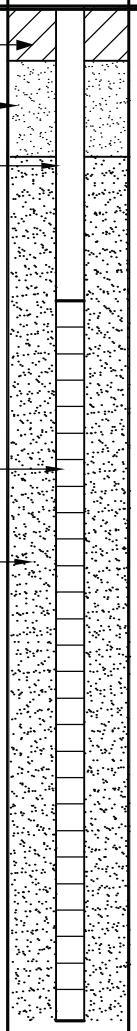
PROJECT: PECHINEY PLASTICS PACKAGING

CASE # 02-0531G

COMMENTS:

ND - NOT DETECTED

N/A - NOT AVAILABLE.

DEPTH (feet)	PID (ppm)	BLOW COUNTS	SAMPLE INTERVAL (feet)	REMARKS	WELL CONSTRUCTION	DESCRIPTIVE INTERVAL (feet)	DESCRIPTION
120		N/A-N/A-N/A-N/A	100-130	Cement / Bentonite Grout 0.0' - 120.0' NO. 00 Sand 120.0-122.0 Ft. Schedule 40 2" ø PVC 2" ø SLOTTED PVC 125.0-140.0 Ft. NO. 1 Sand Filter Pack 122.0-140.0 Ft.		100.0-140.0	No samples collected.
125							
130							
135							
140							

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2400046215

MONITORING WELL RECORD

PROPERTY OWNER: PECHINEY PLASTICS PACKAGING INC.

Company/Organization:

Address: 191 ROUTE 31 NORTH Washington, New Jersey 07882

WELL LOCATION:

Address: 191 ROUTE 31 NORTH

County: Warren Municipality: Washington Boro Lot: 1 Block: 37

Easting (X): 358700 Northing (Y): 704337
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: September 3, 2008

DATE WELL COMPLETED: September 16, 2008

WELL USE: SOIL VAPOR EXTRACTION

Other Use(s):

Local ID: PW-6

WELL CONSTRUCTION

Total Depth Drilled (ft.): 140 Finished Well Depth (ft.): 140 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	140	12		
Casing	72	112	12	Steel	0
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	140	12	0		8000	420
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Dual Rotary

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 128 ft. below land surface
Water Level Measure Tool: tape
Well Development Period: 0 hrs.
Method of Development: none
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: DR-12
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 140: orange GM - Silty gravels, gravel-sand-silt mixtures glacial till

ADDITIONAL INFORMATION: casing broke off in hole approval was granted to abandon hole. 40' of 12" steel casing was left in hole from 72 - 112'.

Driller of Record: Wesley M Eichfeld, MASTER LICENSE # 592848 Company: S.G.S. ENVIRONMENTAL SERVICES, INC.

ENVIRON

Contractor:	SGS Environmental
Driller:	Ziegenfuss
Driller's Name:	Dean Snook
Drilling Method:	Dual Rotary - Air
Sampling Method:	N/A

Well Construction:

Riser:	8-Inch Schedule-80 PVC	0-121 ft bgs
Screen:	8-Inch 20-Slot Stainless Steel	121-141 ft bgs
Sump:	8-Inch Stainless Steel	141-143 ft bgs

▽ Water Level During Drilling

▼ Water Level of Completed Well

Site ID: POH-PW6	Date(s): 11/19/2008 - 12/2/2008
Location: Washington, NJ	
Logged By: R. Warby	Checked By: P. Barnes
GS Elevation: 545.07 FT AMSL	TOC Elevation: 545.07 FT AMSL
North: 704329.38	East: 358719.83
Borehole Dia.: 12 inches	Total Depth: 143.0 feet
Project Number: 02-11697I/02-22518A2	
Project Name: Pohatcong Valley Ground Water Contamination Site	

Annular Fill:		
	95/5 Grout/Bentonite Mix	0-115
	Bentonite	115-117
	#00 Sand	117-119
	#02 Sand	119-143

Elevation (ft)	Depth (ft)	PID (ppm)	USCS Code	Material Description	Water Level	Well Construction
540			ML	Light brown clayey SILT, some fine sand, little gravel (rock fragments)		
535	10					
530				Boulder (Gray rock fragments)		
525	20		ML	Light brown clayey SILT, some fine sand, little gravel (rock fragments)		
520				Boulder (Gray rock fragments)		
515	30					
510						
505	40					
500						
495	50					
490			ML	Light brown clayey SILT, some fine sand, little gravel (rock fragments)		
485	60					
480						
475	70	ND				
470						
465	80					
460						
455	90					
450						
445	100					
440				Weathered carbonate bedrock fragments		
435	110					
430						
425	120			Fracture zone		
420						
415	130			Carbonate bedrock	▼	
410					▽	
405	140					
400						